

STATEMENT OF BASIS

as required by LAC 33:IX.3109, for draft **Louisiana Pollutant Discharge Elimination System Permit No. LA0122092; AI 131721; PER20050001** to discharge to waters of the **State of Louisiana** as per LAC 33:IX.2311.

The **permitting authority** for the Louisiana Pollutant Discharge Elimination System (LPDES) is:

Louisiana Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, Louisiana 70821-4313

- I. **THE APPLICANT IS:** Environmental Compliance Solutions, LLC
Environmental Compliance Solutions Portable Unit
12231 Industriplex Blvd.
Baton Rouge, LA 70890

- II. **PREPARED BY:** Angela Marse

- DATE PREPARED:** July 11, 2006

- III. **PERMIT ACTION:** LPDES permit LA0122092, AI 131721; PER20050001

LPDES application received: October 12, 2005

No previous permits issued.

IV. **FACILITY INFORMATION:**

- A. The application is for the discharge of treated oily wastewaters from industrial and marine sources including:
 - treated barge washwater,
 - treated bilge and ballast waters,
 - treated internal vacuum tank washwater,
 - treated used crude inland oil spill waters,
 - treated used oil and diesel fuel tank washwater,
 - treated washwater from oilfield equipment and vessels,
 - treated industrial oily wastewater,
 - treated slop wastewater,
 - treated stormwater,
 - treated washdown water,
 - treated kitchen grease

- B. The facility location will vary within the statewide area. The permit is for a mobile wastewater treatment plant.

- C. The treatment process consists of filtration, purification, and biological degradation.

- D. Outfall 001
 - Discharge Location: Statewide, Various Parishes

 - Description: treated oily wastewaters and washwaters

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Expected flow: Flow will vary from one location to the next; however, the expected flow on the application from the wastewater description above is approximately 0.065 MGD. The facility is designed for up to 0.1 MGD.

Type of Flow Measurement which the facility will use: continuous recorder

V. RECEIVING WATERS:

The discharge is into waters of the State of Louisiana

Basin and Segment – Statewide

Possible Designated Uses:

1. primary contact recreation
2. secondary contact recreation
3. propagation of fish and wildlife
4. oyster propagation
5. agriculture
6. outstanding natural resource
7. drinking water supply

VI. ENDANGERED SPECIES:

According to Section II.2 of the Implementation Strategy between the U.S. Fish and Wildlife Service (FWS) and the LDEQ, this facility has the potential to discharge to receiving waterbodies that endangered species inhabit. The subsegments listed in this strategy are noted below.

<u>Endangered Species</u>	<u>Subsegment(s)</u>
Infalted heelsplitter	040302
Louisiana pearlshell	060208, 060209, 101301, 101302
Pink mucket pearly mussel	080401
Ringed sawback turtle	090101-090107 (excluding 091004), 090201-090207, 090501
Gulf sturgeon	040501-040503, 040602, 040603, 040701- 040704, 040801-040804, 040902, 040904, 040910, 041001, 041002, 041701, 041703, 041704, 042001, 042003, 042201, 042203- 042206, 090101-090107, 090201-090208, 090301, 090401, 090501, 090506
Pallid sturgeon	040302, 040403, 040601, 040911, 041704, 042101, 042201, 070301

Discharges from the portable treatment unit will only be allowed in subsegments with endangered species if the subsegment has a low flow of at least 100cfs. Therefore, only discharges to subsegments 040302, 040701, 040702, 041701, 041703, 040601, 070301, 090101, 090103, 090106, 090201, 090202, and 090501 will be allowed by the proposed permit.

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VII. HISTORIC SITES:

The discharge is from a mobile facility, which does not include an expansion on undisturbed soils.

Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the 'Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits' no consultation with the Louisiana State Historic Preservation Officer is required.

VIII. PUBLIC NOTICE:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

THE TIME PICAYUNE of New Orleans

THE ADVOCATE of Baton Rouge

THE ADVERTISER of Lafayette

LAKE CHARLES AMERICAN PRESS

THE TOWN TALK of Alexandria

THE DAILY COURIER of Houma

THE NEWS STAR of Monroe

THE TIMES of Shreveport

Office of Environmental Services Public Notice Mailing List

For additional information, contact:

Mrs. Angela Marse
Permits Division
Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, Louisiana 70821-4313

IX. PROPOSED PERMIT LIMITS:**Final Effluent Limits:****OUTFALL 001**

The portable treatment unit will treat and discharge oily wastewater and washwater from industrial and marine sources. The parameters and effluent limitations in the proposed permit are based on New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR.437.24-Subpart B. Oil Treatment and Recovery), Water Quality Standards from LAC33:IX.1113, Table 1, LDEQ Barge Cleaners Guidance Document, and best professional judgment from similar permits and discharges. Since the receiving stream will vary with location, a water quality based limits was not calculated for each metal. Rather, calculations for all metals with State standards were done. In cases where the State standard was more stringent than the New Source Performance Standard for Centralized Waste Treaters limit, the State standard is the permit limit.

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Environmental Compliance Solutions, LLC statewide portable wastewater treatment plant proposes to discharge into various waterbodies of the State of Louisiana. Some of these waterbodies may be included on the 303(d) List of impaired waterbodies. Because there is a potential for a discharge to an impaired waterbody, where applicable the most stringent of the Water Quality Standards, Centralized Waste Treaters requirements, LDEQ Barge Cleaners Guidance Document, or effluent limits from similar permits have been placed at the end of pipe. Placing the most stringent effluent limitation at the end of pipe will ensure no degradation of the waterbody will occur regardless of the receiving stream.

A reopener clause will be established in the permit to include more stringent limits based on any future guidelines and/or TMDLs.

Final limits shall become effective on the effective date of the permit and expire on the expiration date of the permit.

Effluent Characteristic	Monthly Avg. (mg/l)	Daily Max. (mg/l)	Basis
CBOD ₅	5 mg/l	7.5 mg/l	Best Professional Judgement (BPJ) based on similar permits and effluents for new dischargers into impaired waterbodies.
TSS	11.3 mg/l	29.6 mg/l	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Oil and Grease	---	15 mg/l	BPJ; existing permits for similar discharges
TOC	---	70 mg/l	BPJ; existing permits for similar discharges
COD (*1)	200 mg/l	300 mg/l	BPJ; existing permits for similar discharges
Total Antimony (*2)	0.0312	0.111	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Total Arsenic (*2)	0.0199	0.0993	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Total Cadmium (*2) (*5)	0.00178	0.00178	Water Quality Standards from LAC 33:IX.1113, Table 1.
Total Chromium (*2)	0.0522	0.167	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Total Cobalt	0.0703	0.182	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Total Copper (*2) (*5)	0.00879	0.00879	Water Quality Standards from LAC 33:IX.1113, Table 1.
Total Lead (*2) (*5)	0.00209	0.00209	Water Quality Standards from LAC 33:IX.1113, Table 1.

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Total Mercury (*2) (*5)	0.000033	0.000033	Water Quality Standards from LAC 33:IX.1113, Table 1.
Total Nickel (*2)	0.309 mg/l	0.794 mg/l	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Total Selenium (*2)	0.0698	0.176	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Total Silver (*2)	0.0122	0.0318	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Total Tin	0.0367	0.0955	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Total Titanium	0.00612	0.0159	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Total Vanadium	0.0518	0.0628	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Total Zinc (*2) (*5)	0.0831	0.0831	Water Quality Standards from LAC 33:IX.1113, Table 1.
Acetone	7.97	30.2	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Acetophenone	0.0562	0.114	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Bis(2-ethylhexyl phthalate) (*2)	0.101	0.215	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
2-Butanone	1.85	4.81	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Butylbenzyl phthalate	0.0887	0.188	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Carbazole	0.276	0.598	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
o-Cresol	0.561	1.92	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
p-Cresol	0.205	0.698	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)

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n-Decane	0.437	0.948	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Fluoranthene (*2)	0.0268	0.0537	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
n-Octadecane	0.302	0.589	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Total Phenols (*2)	1.08	3.65	Water Quality Standards from LAC 33:IX.1113, Table 1.
Pyridine	0.182	0.370	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
2,4,6-Trichlorophenol (*2)	0.106	0.155	New Source Performance Standards (NSPS) for Centralized Waste Treaters (40 CFR 437.45)
Benzene (*2) (*4)	---	0.3 mg/l	LDEQ's Barge Cleaners' Guidance Document
Toluene (*2) (*4)	---	0.3 mg/l	LDEQ's Barge Cleaners' Guidance Document
Total Xylene (*4)	---	0.3 mg/l	LDEQ's Barge Cleaners' Guidance Document
Ethylbenzene (*2) (*4)	---	0.3 mg/l	LDEQ's Barge Cleaners' Guidance Document
Naphthalene (*4)	---	0.3 mg/l	LDEQ's Barge Cleaners' Guidance Document
Polynuclear Aromatic Hydrocarbons (PAH) (*3)	---	0.01	LDEQ's Barge Cleaners' Guidance Document

*Concentration limits are used in accordance with LAC 33:IX.2709.F.1.b which states that mass limitations are not necessary when applicable standards and limitations are expressed in other units of measurement. LAC 33:IX.709.B references LAC 33:IX.711 which express BOD₅ and TSS in terms of concentration.

** The following in-plant limitations apply to metal-bearing wastewater containing cyanide:

Monthly
Average (mg/l)

178

Daily
Maximum (mg/l)

500

(1*) If process wastewater is combined with stormwater, the COD limitations shall be 125 mg/l Daily Maximum (No Monthly Average limitation set.)

(*2) If any individual analytical test is less than the minimum quantification level (MQL) listed in Section X of this statement of basis, a value of zero (0) may be reported for that individual result on the Discharge Monitoring Report (DMR) calculations and reporting requirements.

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MINIMUM QUANTIFICATION LEVELS (MQL) OF PERMITTED TOXIC SUBSTANCES

<u>Volatile Organic Compounds</u>	<u>Required MQL (ug/l)</u>	<u>EPA Test Method</u>
Benzene (71-43-2)	10	624
Ethylbenzene (100-41-4)	10	624
Toluene (108-88-3)	10	624
<u>Acid Compounds</u>		
2,4,6-Trichlorophenol (88-06-2)	10	625
<u>Base/Neutral Compounds</u>		
bis(2-ethylhexyl)phthalate (117-81-7)	10	625
fluoranthene (206-44-0)	10	625
<u>Metals</u>		
Antimony (7440-36-0)	60	200.7
Arsenic (7440-38-2)	10	206.2
Cadmium (7440-43-9)	1	213.2
Chromium III (16065-83-1)	10	200.7
Chromium VI (7440-47-3)	10	200.7
Copper (7550-50-8)	10	220.2
Lead (7439-92-1)	5	239.2
Mercury (7439-97-6)	0.2	245.1
Nickel (7440-02-0)	40	200.7
Selenium (7782-49-2)	5	270.2
Silver (7440-22-4)	2	272.2
Zinc (7440-66-6)	20	200.7
Cyanide	20	335.2
Total phenols	5	420.1

(*3) The Daily Maximum of any of the following PAHs shall not exceed 0.01 mg/l,; acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3cd)pyrene, naphthalene, phenanthrene, pyrene.

(*4) All effluent characteristics shall be sampled simultaneously. The sum of the highest three (3) effluent characteristics in any one sampling shall not exceed 0.3 mg/l (Daily Maximum). If a grab sample is collected on any one day, the results shall not exceed the Daily Maximum value. Report individual component results and total of highest of three (3) components.

(*5) Example calculation of the Water Quality Standard for hardness-dependent metals:

Metals criteria for aquatic life protection are based on dissolved metals concentrations and hardness values average from data compilations contained in the Louisiana Water Quality Data Summary. A dissolved to total metal conversion will be implemented. Hardness and TSS are a function of the conversion. This involves determining a linear partition coefficient for the metal of concern and using this to determine the fraction of metal dissolved, so that the dissolved metal ambient criteria may be translated to a total effluent limit. The average hardness value used for the

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analysis is 25 mg/l CaCO_3 (USGS data from LDEQ Engineering). The 15th percentile TSS value is 2 mg/l (also from LDEQ Engineering). The hardness and TSS values have been used in similar permits and are used here for consistency and protection of the receiving waterbody.

The formula for converting dissolved metals to total metals for streams and lakes are provided below. Cadmium is used as an example.

K_p = Linear partition coefficient
 K_{po} = found in Table A below
 \forall = found in Table A below
 TSS = total suspended solids concentration found in receiving stream (in this case most restrictive), lowest 15th percentile, units in mg/l
 C_D/C_T = Fraction of metal dissolved
 Cr = Dissolved criteria value for metal in water quality standards

$$K_p = K_{po} \times \text{TSS}^\forall$$

$$K_p = (4.00 \times 10^6) \times 2^{(-1.13)}$$

$$\text{then, } \frac{C_D}{C_T} = \frac{1}{1 + (K_p)(\text{TSS})(10^{-6})}$$

$$\frac{C_D}{C_T} = \frac{1}{1 + (1827662.9)(2)(10^{-6})}$$

$$= 0.2148$$

$$\text{Then, } Cr_{(\text{acute})} = e^{(1.128[\ln(\text{hardness})] - 1.6774)}$$

$$= 7.053$$

$$Cr_{(\text{chronic})} = e^{(0.7852[\ln(\text{hardness})] - 3.49)}$$

$$= 0.382$$

therefore,

$$\text{Total Metal} = \frac{Cr}{(C_D/C_T)}$$

$$= 0.382/0.214807737$$

$$= 1.778 \text{ ug/l or } 0.00178 \text{ mg/l}$$

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TABLE A
LINEAR PARTITION COEFFICIENTS
FOR PRIORITY METALS IN STREAMS AND LAKES

(Delos et. al, 1984) (*A)

METAL	STREAMS		LAKES	
	K_{po}	∇	K_{po}	∇
Arsenic	0.48×10^6	-0.73	0.48×10^6	-0.73
Cadmium	4.00×10^6	-1.13	3.52×10^6	-0.92
Chromium III	3.36×10^6	-0.93	2.17×10^6	-0.27
Copper	1.04×10^6	-0.74	2.85×10^6	-0.9
Lead	2.80×10^6	-0.8	2.04×10^6	-0.53
Mercury	2.90×10^6	-1.14	1.97×10^6	-1.17
Nickel	0.49×10^6	-0.57	2.21×10^6	-0.76
Zinc	1.25×10^6	-0.7	3.34×10^6	-0.68

(*A) Delos, C. G., W. L. Richardson, J. V. DePinto, R. B. Ambrose, P. W. Rogers, K. Rygwelski, J. P. St. John, W. J. Shaughnessey, T. A. Faha, W. N. Christie. Technical Guidance for performing Waste Load Allocations, Book II: Streams and Rivers. Chapter 3: Toxic Substances, for the U. S. Environmental Protection Agency. (EPA-440/4-84-022).

Other Effluent Limitations:

1) pH

The pH shall not be less than 6.0 standard units or greater than 9.0 standard units at any time. (Limits as established through BPJ considering BCT for similar waste streams in accordance with LAC 33:IX.2645.C.)

2) Solids and Foam

There shall be no discharge of floating solids or visible foam in other than trace amounts in accordance with LAC 33:IX.1113.B.7.

X. PREVIOUS PERMITS:

No previous permits issued.

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X. PREVIOUS PERMITS:

No previous permits issued.

XI. ENFORCEMENT AND SURVEILLANCE ACTIONS:**A) Inspections**

A review of the files indicates no inspections have been performed for this facility.

B) Compliance and/or Administrative Orders

A review of the files indicates no enforcement actions administered against this facility.

C) DMR Review

No discharge monitoring reports have been submitted for this facility.

XII. ADDITIONAL INFORMATION:

Please be aware that the Department is conducting TMDL Studies in waterbodies throughout the State. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions as a result of the TMDL. To date, TMDLs have been completed in the Barataria Basin, Calcasieu River Basin, Mermentau River Basin, Vermilion-Teche River Basin, Red River Basin, Terrebonne Basin, and Ouachita River Basin. Completion of all TMDLs is scheduled for 2012. Therefore, prior to discharging, the permittee shall verify no TMDLs have been completed for the receiving waterbodies. This can be done by reviewing final reports on the Total Maximum Daily Load Program webpage at LDEQ's website, www.deq.louisiana.gov. Prior to discharging pollutants to a TMDL waterbody, the permittee shall contact the Department.

In addition, the permittee should refer to LAC 33.IX.Subpart 1, Table 3 for specific numerical criteria for each receiving waterbody. Effluent discharges should not cause an exceedence of numerical criteria for the appropriate receiving waterbody.

At present, the **Monitoring Requirements, Sample Types, and Frequency of Sampling** as shown in the permit are based on requirements of similarly permits with similar effluents.

Effluent CharacteristicsMonitoring Requirements

	<u>Measurement</u>	<u>Sample</u>
	<u>Frequency</u>	<u>Type</u>
Flow	1/batch	Measure
All other parameters	1/batch	Measure

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XIII TENTATIVE DETERMINATION:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharge described in this Statement of Basis.

XIV REFERENCES:

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 8, "Wasteload Allocations / Total Maximum Daily Loads and Effluent Limitations Policy," Louisiana Department of Environmental Quality, 2005.

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 5, "Water Quality Inventory Section 305(b) Report," Louisiana Department of Environmental Quality, 1998.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Chapter 11 - "Louisiana Surface Water Quality Standards," Louisiana Department of Environmental Quality, 2004.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Subpart 2 - "The LPDES Program," Louisiana Department of Environmental Quality, 2004.

Low-Flow Characteristics of Louisiana Streams, Water Resources Technical Report No. 22, United States Department of the Interior, Geological Survey, 1980.

Index to Surface Water Data in Louisiana, Water Resources Basic Records Report No. 17, United States Department of the Interior, Geological Survey, 1989.

LPDES Permit Application to Discharge Wastewater, Environmental Compliance Solutions, Environmental Compliance Solutions Portable Unit, October 12, 2005.